

**REMARKS**

Claims 1-15 are pending. By this Amendment, claims 2, 5-8, 10, 11, and 15 are amended, claims 1, 4, 9, and 13 are cancelled, thereby leaving claims 3, 12, and 14 unchanged. Claims 16-24 are hereby added.

**35 U.S.C. §112, Second Paragraph, Rejections**

Claims 9-15 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More particularly, the Examiner indicates that the claim 9 limitation of "the first set of mounting holes" has insufficient antecedent basis.

By this Amendment, Applicants have cancelled independent claim 9 and have re-written dependent claim 15 into independent form to substantially include the subject matter of claim 9. Independent claim 15 has been amended to correct the antecedent basis issue identified by the Examiner. Accordingly, withdrawal of this rejection is respectfully requested.

**35 U.S.C. §102(b) Rejections**

Claims 1-5, 7, 9-12, and 14 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,095,617 ("Bertetti"). Applicants wish to point out that dependent claim 8 is not identified in the first line of section 4 of the Office Action as being rejected, however, in the last paragraph of section 4, the Examiner contends that Bertetti discloses the subject matter of claim 8. For purposes of this response, Applicants will assume that the Examiner mistakenly left out dependent claim 8 in the first sentence of section 4 and in fact meant to reject dependent claim 8 in view of Bertetti.

Claim 8 has been amended into independent form to substantially include the subject matter of its base claim (independent claim 1) and any intervening claim (none).

Independent claim 8 recites:

A wheel hub for a vehicle having an axle and a wheel, the hub comprising:  
a sleeve rotatably mounted on the axle, the sleeve having an outer surface  
and a sleeve bolting flange radially extending from the outer surface; and  
a wheel-mounting flange substantially surrounding the sleeve, the wheel-  
mounting flange having a first set of mounting holes for bolting the wheel-  
mounting flange to the sleeve bolting flange and a second set of mounting holes

for bolting the wheel to the wheel-mounting flange, the second set of mounting holes being radially more distant from the sleeve than the first set of mounting holes;

wherein the sleeve includes a radially extending bolting lug and the wheel-mounting flange includes an inner edge with a cavity large enough to receive the bolting lug.

With reference to Fig. 1, Bertetti discloses an integrated wheel and wheel hub assembly for an automobile including a wheel 2, a wheel hub 3, a wheel flange 12, and a brake rotor 39. The wheel flange 12 is mounted on section 24 of the wheel hub 3. Section 24 of the wheel hub 3 includes an annular projection 27, which defines the first shoulder of axial arrest for central section 13 of the wheel flange 12. Annular axial end 28 of the section 24 is bent by rolling on a border of central section 13 opposite to the stopping border on projection 27, creating a second axial arrest that, together with the first, ensures the axial block of the wheel flange 12. Column 2, lines 48-54. "According to another embodiment of the present invention, not illustrated here, the radial and axial coupling between the wheel flange 12 and wheel hub 13 can be obtained with a *welding cord* on both the peripheral contact borders of central section, and cup-shaped section 24." Column 2, lines 55-59. Further, with respect to Fig. 3, "annular section 51 is also secured axially, as known in the previous case [Fig. 1], between supporting seat 28, obtained through *plastic deformation* of a corresponding edge of the wheel hub 3' and supporting seat 47". Column 3, lines 57-60.

Bertetti does not teach or suggest, among other things, a sleeve including a radially extending bolting lug and a wheel-mounting flange including an inner edge with a cavity large enough to receive the bolting lug. Rather, Bertetti discloses a wheel flange 12 that is on section 24 of the wheel hub. Then, after positioning of the wheel flange 12 on the hub 3, the end 28 of the section 24 is bent, welded, or plastically deformed to the position shown in Figs. 1, 3, and 4 to axially secure the wheel flange 12 on the wheel hub 3. In this position, the end 28 is larger than a central cavity of the wheel flange 12 in order to secure the wheel flange 12 to the hub 3. Accordingly, the central cavity of the wheel flange 12 is not "large enough to receive [a radially extending] bolting lug [end 28]," as stated in independent claim 8. In addition, the end 28 makes removal of Bertetti's wheel flange, for servicing of the brake or for other reasons, difficult. This difficulty presented by Bertetti is in contrast to aspects of the present invention, which facilitates simple removal of the wheel flange and the brake component from the sleeve for servicing or other reasons.

For these and other reasons, Bertetti does not teach or suggest the subject matter of independent claim 8. Accordingly, independent claim 8 should be allowable. Claims 2, 3, 5-7, 16, and 17 depend from independent claim 8 and should be allowable for the same and other reasons as independent claim 8.

Regarding the 35 U.S.C. §102(b) rejections of claims 9-12 and 14, claim 9 has been cancelled and claim 15 rewritten into independent form to substantially include the subject matter of claim 9. Claim 15 is not rejected under 35 U.S.C. §102(b) with Bertetti alone. Accordingly, these claims will be addressed in the following section.

#### 35 U.S.C. §103(a) Rejections

Claims 6 and 9-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bertetti in view of U.S. Patent No. 6,076,896 ("Bertetti et al."). Applicants wish to point out that claim 15 is listed as one of the claims rejected in the first line of section 5 of the Office Action, however, the Examiner did not address claim 15 or the claim limitations of claim 15 in the contentions of section 5. Nevertheless, Applicants will still address the disclosures of Bertetti and Bertetti et al. in view of the subject matter of independent claim 15.

Claim 15 has been amended into independent form to substantially include the subject matter of its base claim (independent claim 9) and any intervening claim (none).

Independent claim 15 recites:

A wheel-mounting assembly for a vehicle having an axle and a wheel, the assembly comprising:

a sleeve rotatably mounted on the axle, the sleeve having an outer surface and a sleeve bolting flange radially extending from the outer surface;

a wheel-mounting flange substantially surrounding the sleeve and removable from the sleeve; and

a brake component, the brake component positioned in part between the bolting flange and the wheel-mounting flange;

wherein the sleeve includes a bolting lug and the wheel-mounting flange and the brake component include inner edges that pass over the bolting lug in particular rotational positions.

Bertetti does not teach or suggest, among other things, the subject matter of independent claim 15. This is acknowledged by the Examiner, and Applicants agree, in view of a lack of rejection of claim 15 with Bertetti alone.

Bertetti et al. does not cure the deficiencies of Bertetti. Bertetti et al. discloses a brake member 10 and a radial rotating flange 13 having a star-shaped outer contour defined by alternate succession of radial appendixes 18 and recesses 19. The brake member 10 is inserted over the hub flange 13 without interfering with the appendixes 18. The brake member 10 is first pushed axially from the outside to the inside of the vehicle (arrow I in Fig. 2) until it abuts against radial wall 23 of a brake carrier 20. Secondly, the brake member 10 is rotated half angular pitch as indicated by arrow II of Fig. 2. Then, pins 30 are used to connect the brake member to the hub. See column 2, line 60 – Column 3, line 18. A wheel 40 is positioned outside the hub 13 and connected against the outside of the hub 13 via studs 41. See Figs. 2, 5-8, 10, and 11.

Bertetti et al. does not teach or suggest, among other things, a sleeve including a bolting lug, and a wheel-mounting flange and a brake component including inner edges that pass over the bolting lug in particular rotational positions. Rather, Bertetti et al. discloses a wheel 40 positioned outside and connected against the outside of the hub 13 without any portion thereof passing over a bolting lug of a sleeve. In addition, Bertetti et al. only teaches a brake member 10 slidably over the hub 13. This is in contrast with the claimed subject matter of independent claim 15, which recites a wheel-mounting flange and a brake component including inner edges that pass over a bolting lug of the sleeve.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. *In re Royka*, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (CCPA 1974); MPEP §§706.02(j), 2143.03. As discussed above, Bertetti and Bertetti et al. do not teach or suggest all the claim limitations of amended independent claim 15. Accordingly, the Examiner has failed to establish a *prima facie* case of obvious of independent claim 15.

For these and other reasons, Bertetti and Bertetti et al. do not teach or suggest, either alone or in combination, the subject matter of independent claim 15. Accordingly, independent claim 15 should be allowable. Claims 10-12, 14, 18, and 19 depend from independent claim 15 and should be allowable for the same and other reasons as independent claim 15.

#### New Independent Claim 20

None of the references of record, either alone or in combination teach or suggest the subject matter of independent claim 20. Accordingly, independent claim 20 should be allowable.

Claims 21-24 depend from independent claim 20 and should be allowable for the same and other reasons as independent claim 20.

**CONCLUSION**

In view of the foregoing, entry of the present Amendment and allowance of claims 2, 3, 5-8, 10-12, and 14-24 are respectfully requested.

The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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